REMARKS

In the Office Action, claims 1-24 and 27 were rejected. By the present Response, claims 1 and 17 are amended. Upon entry of the amendments, claims 1-24 and 27 will remain pending in the present patent application. Reconsideration and allowance of all pending claims are requested.

Rejections Under 35 U.S.C. § 102

The Office Action summarizes claims 1-5, 10-20 and 23 and 27 as rejected under 35 U.S.C. §102(b) as being anticipated by Bunker et al. (U.S. Patent No. 6,234,755; hereinafter "Bunker"). Rejected claims 1 and 17 are independent and will be discussed in detail below.

By the present response independent claims 1 and 17 are amended. Independent claims 1 and 17 and the claims depending there from are believed to be patentable for the reasons summarized below.

Claims 1 and 17

Amended claim 1 recites, *inter alia*, "forming a plurality of discrete flow directors on a component comprising a wall having at least one film-cooling hole extending through the wall and defining an exit site, wherein at least one of the *discrete* flow directors is associated with *each* of the at least one film cooling hole and wherein each of the flow directors comprises a three-dimensional projection disposed external to the cooling hole and having limited dimensions in three directions."

Amended claim 17 recites, *inter alia*, "forming a plurality of discrete flow directors on a turbine component comprising a wall having a cold surface and a hot surface, wherein at least one film-cooling hole extends through the wall for flowing a coolant from the cold surface to the hot surface, the film-cooling hole defining an exit site in the hot surface of

the wall, wherein at least one of the *discrete* flow directors is associated with *each* of the at least one film cooling hole and wherein each of the flow directors comprises a three-dimensional projection disposed external to the cooling hole and having limited dimensions in three directions."

Applicants thus submit that amended independent claims 1, and 17 recite, in generally similar language, forming a plurality of discrete flow directors, wherein at least one of the discrete flow directors is associated with each of the at least one film cooling hole and wherein each of the flow directors comprises a three-dimensional projection. *See* Application, paragraphs [0033] [0034] [0036] and [0045]; Figs. 3-7, Figs. 16-17.

The Examiner argued that Bunker discloses a method of forming a flow director (by forming a slot over the holes) on a component comprising a wall by depositing at least one layer on the wall of the component, wherein said deposition includes shaping the layers in accordance with the predetermined shape of the flow director and therefore forming the flow director that extends radially outwards from the initial wall of the component and into a hot gas flow path . Further, the Examiner argued that there are two walls to the slot and therefore there is a plurality of discrete flow directors for each slot and one of the flow directors is associated with one of the film cooling holes. The Examiner cited passages at col. 2, lines 20-24 and lines 50-60 and Fig. 3 of Bunker in support of the rejection.

Applicants respectfully submit that first Bunker fails to teach a plurality of discrete flow directors, wherein at least one of the *discrete* flow directors is associated with *each* of the at least one film cooling hole. Rather, Bunker teaches forming a single continuous slot within a high temperature surface of the substrate such that the cooling holes are within the slot. The cooling holes are between the two walls of the slot.

Bunker teaches a slot that would extend partly inwardly and perpendicularly from each hot surface toward the cooler surface. The slot also extends longitudinally along a selected dimension of holes Further, the slot serves as a spillway trench for coolant air exiting cooling holes. *See*, Bunker, col. 6, limes 27-35 and col. 7, lines 1-10. The slot, however, is a depression on the surface. The walls of the slot do not project outward from the surface, but depend into the surface unlike the discrete flow directors that project outward from the surface. Therefore, the walls of the slot are not projections on the surface as the discrete flow directors. The three-dimensional discrete flow directors are projecting features on top of the surface.

Clearly, Bunker does not teach discrete flow directors, with at least one discrete flow director associated with each film cooling hole and wherein each of the flow directors comprises a three-dimensional projection. Applicants respectfully submit that a *prima facie* case of anticipation cannot be supported by Bunker against claims 1 and 17.

Therefore, it is submitted that independent claims 1 and 17 and their dependent claims are allowable and the applicant's respectfully request the Examiner to reconsider rejection of the claim.

Rejections Under 35 U.S.C. § 103

The Office Action summarizes claims 1-5, 10-20, 23, 24 and 27 as rejected under 35 U.S.C. §103(a) as being unpatentable over Bunker.

As discussed above, Bunker fails to teach a plurality of discrete flow directors, wherein at least one of the *discrete* flow directors is associated with *each* of the at least one film cooling hole and wherein each of the flow directors comprises a three-dimensional projection. Rather, Bunker teaches forming a single continuous slot within a high temperature surface of the substrate such that the cooling holes are within the slot.

The walls of the slot do not project outward from the surface, but depend into the surface unlike the discrete flow directors that project outward from the surface. Therefore, the walls of the slot are not projections on the surface as the discrete flow directors.

Therefore, it is submitted that independent claims 1 and 17 and their dependent claims are allowable and the applicant's respectfully request the Examiner to reconsider rejection of the claim.

Conclusion

In view of the remarks and amendments set forth above, Applicants respectfully request allowance of the pending claims. If the Examiner believes that a telephonic interview will help speed this application toward issuance, the Examiner is invited to contact the undersigned at the telephone number listed below.

Respectfully submitted,

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